

AMENDMENTS TO THE SPECIFICATION

Please amend the title of the invention as follows:

~~LOWER LAYER~~ UNDERCOATING MATERIAL FOR WIRING, EMBEDDED MATERIAL, AND WIRING FORMATION METHOD

Please amend page 21, line 23 to page 22, line 13 as follows:

The above-described poisoning causes a significant defect in the shape of the second etching space 15 obtained in the wiring formation process illustrated in Fig. 2G. Fig. 3 is a schematic view showing a normal etching space and an etching space having defect in shape. Fig. 3A is an enlarged plan view of an essential part where the trench (second etching space) 15 can be formed normally without the poisoning phenomenon, and (b) 3B is an enlarged plan view of an essential part where the poisoning phenomenon occurred to cause defects in the shape of the trench (second etching space) 15. In Fig. 3, the same element as in Figs. 1 and 2 is given the same symbol to simplify the description. Fig. 3B is illustrated with relatively higher magnification than Fig. 3A. As illustrated in the figures, the embedded material and the photoresist layer are deteriorated by the poisoning phenomenon due to a basic substance generated from the low-dielectric layer 9, and the resist pattern is formed such that the via hole (first etching space) 12 is covered therewith, and the shape of the trench 15 is significantly deformed.

Please amend page 24, line 22 to page 25, line 6 as follows:

When a predetermined energy is applied to the undercoating material for forming an undercoating layer, terminal groups in the resin component ~~resin~~ of the undercoating layer formed are converted into sulfonic acid groups.

These terminal sulfonic acid groups render the undercoating layer compatible with water-soluble amines and quaternary ammonium hydroxide. A solution containing such water-soluble amines and quaternary ammonium hydroxide can be used as a resist stripping solution, and thus the undercoating layer can be easily removed with the resist stripping solution without corroding a low-dielectric layer. The undercoating layer can prevent the deterioration of a resist pattern caused by the poisoning phenomenon.

Please amend page 49, lines 3-11 as follows:

An anti reflective coating film 411 is then formed on the second etching stopper film 410. A resist is applied onto the anti reflective coating film 411 and then subjected to patterning for formation of a via hole to form a resist mask 412. As illustrated in Fig. 8D, the resist mask 412 is then used in etching, whereby a via hole 413 penetrating the anti reflective coating film 411, the second etching stopper film 410, the second low-dielectric layer 409, the first etching stopper layer 408, and the first dielectric layer 407 and reaching the surface of the lower layer wiring layer 406 is formed (first etching space formation step).

Please amend page 53, lines 9-12 as follows:

In the photoresist composition for forming the upper resist layer in the third wiring formation method of the present invention, a photoresist material used conventionally with KrF, ArF, and F₂ excimer lasers or with electron beam may be used in a usual manner.

Please amend page 70, lines 3-8 as follows:

In a conventional wiring layer formation process, the second lower-dielectric layer ~~516~~ 506 is etched using the final resist pattern (lower resist

pattern) as the mask, to form a trench 515 in a predetermined pattern having a depth reaching the second barrier layer 505, as illustrated in Fig. 10E.

Thereafter, copper is embedded in the via hole 509 and a trench 515, whereby a multilayer wiring structure is formed.